ABSTRACT ESTIMATE

BRUHAT BANGALORE MAHANAGARA PALIKE

SL No	Name of Work:- Package 2 Consists of 3 Works
1	Improvements to roads and drains at Kogilu and surrounding area in Ward No 05 Byatarayanapura sub division
2	Improvements to roads and drains at Agrahara and surrounding area in Ward No 05 Byatarayanapura sub division
3	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 06 Byatarayanapura sub division

SL No	Description of Item	Unit	Item No. in Estimate	Quantity	Rate in Rs.	Amount in Rs.
1	**KSRRB 300-1. Earthwork excavation by manual means for roads, drains & similar works in ordinary soil excavated surface levelled and sides neatly dressed, the disposed earth to be levelled neatly after breaking of clods complete as per specifications(P.No-143 &136 ,I No-19.1&17.4& 17.1) 5km lead= 57+2.0x1.28x5=69.80**	**Cum**		**8,443.14**	**211.79**	**1788172.62**
a	Improvements to roads and drains at Kogilu and surrounding area in Ward No 05 Byatarayanapura sub division		1	1979.46		
b	Improvements to roads and drains at Agrahara and surrounding area in Ward No 05 Byatarayanapura sub division		1	3,360.74		
c	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 06 Byatarayanapura sub division		1	3,102.94		
2	**Removing and refixing stone slabs of drains and pointing in CM (1:3) (P.No.27, I.No.5.33 of PW, P&IWTD SR 2018-19)**	**sqm**		**5,845.37**	**111.3**	**650589.12**
a	Improvements to roads and drains at Kogilu and surrounding area in Ward No 05 Byatarayanapura sub division		2	1,524.70		
b	Improvements to roads and drains at Agrahara and surrounding area in Ward No 05 Byatarayanapura sub division		2	2,165.86		
c	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 06 Byatarayanapura sub division		2	2,154.80		
3	**Removing and resetting of footpath slab (P.No.270, I.No.37.56 of PW, P&IWTD SR 2018-19)**	**sqm**		**753.30**	**208.82**	**157304.11**
a	Improvements to roads and drains at Kogilu and surrounding area in Ward No 05 Byatarayanapura sub division		3	753.30		
b	Improvements to roads and drains at Agrahara and surrounding area in Ward No 05 Byatarayanapura sub division					
c	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 06 Byatarayanapura sub division					
4	**Providing granite Slabs of Selected quality roughly dressed and fixed in cement mortor (1:6) including fixing curing etc,. Complete. 7.5cms thick (P.No.27, I.No.5.31.1 of PW, P&IWTD SR 2018-19)**	**sqm**		**3,313.49**	**742**	**2458605.87**
a	Improvements to roads and drains at Kogilu and surrounding area in Ward No 05 Byatarayanapura sub division		4	169.41		
b	Improvements to roads and drains at Agrahara and surrounding area in Ward No 05 Byatarayanapura sub division		3	2,904.65		
c	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 06 Byatarayanapura sub division		3	239.42		
5	**KSRRB M2900-1. Plain cement concrete M10 mix with crushed stone aggregate 40mm nominal size mechanically mixed, placed in foundation and compacted by vibration including curing including cost of materials, labour, HOM complete as per specifications. MORTH Specification No. 408 (P.No.254, I.No.34.1 of PW,P&IWTD S.R 2018-19)**	**Cum**		**9.24**	**4479.56**	**41391.13**
a	Improvements to roads and drains at Kogilu and surrounding area in Ward No 05 Byatarayanapura sub division					
b	Improvements to roads and drains at Agrahara and surrounding area in Ward No 05 Byatarayanapura sub division		4	3.78		
c	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 06 Byatarayanapura sub division		4	5.46		
6	**Providing and constructing granite / trap / basalt size stone masonry in foundation with cement mortar & stone hammerd dressed in courses not less than 20 cms high, bond stones at 2m. apart in each course including cost of materials, labour, HOM, curing complete as per specifications. KBS 5.1.13. cement mortar 1:6(P.No.255, I.No.34.8.2 of PW, P&IWTD S.R 2018-19)**	**Cum**		**9.72**	**4871.76**	**47353.51**
a	Improvements to roads and drains at Kogilu and surrounding area in Ward No 05 Byatarayanapura sub division					
b	Improvements to roads and drains at Agrahara and surrounding area in Ward No 05 Byatarayanapura sub division		5	4.86		
c	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 06 Byatarayanapura sub division		5	4.86		
7	**Providing and laying in position plain cement concrete of mix 1:2:4 with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregtes @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, for coping. Including cost of all materials, labour, HOM, curing complete as per specifications.Specification No. KBS 4.1, 4.2(P.No 255, I.No.34.11 of PW,P&IWTD S.R 2018-19)**	**Cum**		**2.16**	**5599.98**	**12095.96**

a	Improvements to roads and drains at Kogilu and surrounding area in Ward No 05 Byatarayanapura sub division					
b	Improvements to roads and drains at Agrahara and surrounding area in Ward No 05 Byatarayanapura sub division		6	1.08		
c	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 06 Byatarayanapura sub division		6	1.08		
8	**34.17 Providing and laying in position plain/Reinforced cement cement concrete M20 for sub structure/Superstructure works, with cement @ 320 kgs, 20 mm & down size graded granite metal coarse aggregate @ 0.69 cum and fine aggregates @ 0.46 cum machine mixed with super plasticisers @ 3 lts confirming to IS 9103-2008,concrete laid in layers, well compacted and providing weep holes wherever necessary. with necessary scaffolding, form work etc., including cost of labour, HOM curing etc., complete. (P.No.257, I.No.34.17 of PW, P&IWTD SR 2018-19)**	**Cum**		**24.64**	**5277.74**	**130043.51**
a	Improvements to roads and drains at Kogilu and surrounding area in Ward No 05 Byatarayanapura sub division					
b	Improvements to roads and drains at Agrahara and surrounding area in Ward No 05 Byatarayanapura sub division		7	10.08		
c	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 06 Byatarayanapura sub division		7	14.56		
9	**KSRRB M2200-6. Providing T.M.T. steel reinforcement for R.C.C. work including straightening, cutting, bending, hooking, placing in position, lapping and/or welding wherever required, tying with binding wire and anchoring to the adjoining members wherever necessary complete as per disign (laps, hooks and wastage shall not be measured and paid) cost of materials, labour, HOM complete as per specification. MORTH Specification No.1600 & 2200.TMT Bars Fe 500 (P.No.229, I.No.28.8.2 of PW, P&IWTD SR 2018-19)**	**Tonne**		**1.97**	**72326.98**	**142484.15**
a	Improvements to roads and drains at Kogilu and surrounding area in Ward No 05 Byatarayanapura sub division					
b	Improvements to roads and drains at Agrahara and surrounding area in Ward No 05 Byatarayanapura sub division		8	0.81		
c	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 06 Byatarayanapura sub division		8	1.16		
10	**Providing and laying 100mm thick pre-cast cover slabs over drains of width not exceeding 800 mm using M20 concrete reinforced with steel @ 6.00 kg/Sqm, slabs jointed in CM 1:3 proportion and nicely finished including providing holes in the Cover slabs wherever necessary for easy drainage of surface water including of labour, materials, HOM of machineries, curing, lead and lift charges etc, Complete as per MORTH specifications No. 1500, 1700. (P.No.272, I.No.37.66 of PW,P&IWTD SR 2018-19)**	**m**		**83.70**	**1145.86**	**95908.48**
a	Improvements to roads and drains at Kogilu and surrounding area in Ward No 05 Byatarayanapura sub division		5	83.70		
b	**Improvements to roads and drains at Agrahara and surrounding area in Ward No 05 Byatarayanapura sub division**					
c	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 06 Byatarayanapura sub division					
11	**Providing and Fixing pre cast covering Slab 250mm thick made out of CC 1:2:4 and jelly 20mm Down size with steel reinforcement including form work,curing,including cost of alll materials, labour,hire charges of machinery, loading, unloading, lead and lift,transportation etc ,complete.As per Engineer incharge**	**Sqm**		**88.80**	**5418**	**481118.40**
a	Improvements to roads and drains at Kogilu and surrounding area in Ward No 05 Byatarayanapura sub division					
b	Improvements to roads and drains at Agrahara and surrounding area in Ward No 05 Byatarayanapura sub division		9	39.60		
c	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 06 Byatarayanapura sub division		9	49.20		
12	**KSRRB M300-14. Excavation for roadwork in all types of soil by mechanical means including cutting and loading to tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transportation with a lead of 1.00 km and complete as per specifications MORTH Specificatio MORTH Specification No.301with 4km lead= (I No-19.14 P No-143)**	**Cum**		**19,892.04**	**54.31**	**1080336.69**
a	Improvements to roads and drains at Kogilu and surrounding area in Ward No 05 Byatarayanapura sub division		6	6105.00		
b	Improvements to roads and drains at Agrahara and surrounding area in Ward No 05 Byatarayanapura sub division		10	7,224.84		
c	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 06 Byatarayanapura sub division		10	6,562.20		

13	**KSRRB M400-17. Providing, laying, spreading and compacting cushed stone aggregates of granite / trap / basalt to wet mix macadam specifications including pre mixing the material with water at OMC in mechanical mix plant carriage of mixed materials by tipper to site, laying in uniform layers with paver in sub-base/base course on well prepared surface and compacting with vibratory roller to achieve the desired density complete as per specifications(P.No-155,I No-20.18)**	**Cum**		**15,960.33**	**2001.28**	**31941089.22**
a	Improvements to roads and drains at Kogilu and surrounding area in Ward No 05 Byatarayanapura sub division		7	5,087.50		
b	Improvements to roads and drains at Agrahara and surrounding area in Ward No 05 Byatarayanapura sub division		11	5,404.33		
c	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 06 Byatarayanapura sub division		11	5,468.50		
14	**KSRRB M 500-6, Providing and applying primer coat with SS bitumen emulsion on prepared surface of granular Base such as WBM WMM including clearing of road surface and spraying primer at the rate of 0.60 kglsqm using mechanical means complete as per specifications. As per MORTH specification clause No. 502 (P.No.158, I.No.21.6 of PW,P&IWTD SR 2018-19)**	**sqm**		**63,841.30**	**28.62**	**1827138.01**
a	Improvements to roads and drains at Kogilu and surrounding area in Ward No 05 Byatarayanapura sub division		8	20,350.00		
b	Improvements to roads and drains at Agrahara and surrounding area in Ward No 05 Byatarayanapura sub division		12	21,617.30		
c	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 06 Byatarayanapura sub division		12	21,874.00		
15	**KSRRB 500-2: Cleaning the existing black topped surface with brooms, soft brushes and finally dusting with old gunny bags and / or compressed air to receive bituminous treatement including cost of all materials, labour, HOM of machineries complete as per specifications. MORTH Spec, Chapter 5 (P.No.158, I.No.21.2 of PW,P&IWTD SR 2018-19)**	**sqm**		**48,492.70**	**5.3**	**257011.31**
a	Improvements to roads and drains at Kogilu and surrounding area in Ward No 05 Byatarayanapura sub division		9	11496.00		
b	Improvements to roads and drains at Agrahara and surrounding area in Ward No 05 Byatarayanapura sub division		13	14,196.20		
c	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 06 Byatarayanapura sub division		13	22,800.50		
16	**KSRRB M500-7 : Providing and applying tack coat using 80/100 grade bitumen (VG10) on prepared black topped surfaces at 2.5 Kg per 10 sqm, heating bitumen in boiler fitted with spray set (excluding cleaning of road surface) including cost of all materials, labour, HOM of machineries complete as per specifications.MORTH / Chapter 5 (P.No.158 I.No.21.7 of PW,P&IWTD SR of 2018-19)**	**sqm**		**1,40,090.80**	**12.72**	**1781954.98**
a	Improvements to roads and drains at Kogilu and surrounding area in Ward No 05 Byatarayanapura sub division		10	38,343.00		
b	Improvements to roads and drains at Agrahara and surrounding area in Ward No 05 Byatarayanapura sub division		14	43,258.30		
c	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 06 Byatarayanapura sub division		14	58489.50		
17	**KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction in all respects complete as per specifications Clause 505 of MORTH V revisionusing 40/60 TPH capacity H.M.P. with Mechanical paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen (P.No-160,I No-21.17.6)**	**Cum**		**1,387.84**	**6597.44**	**9156191.13**
a	Improvements to roads and drains at Kogilu and surrounding area in Ward No 05 Byatarayanapura sub division		11	324.85		
b	Improvements to roads and drains at Agrahara and surrounding area in Ward No 05 Byatarayanapura sub division		15	372.24		
c	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 06 Byatarayanapura sub division		15	690.75		
18	**Providing and laying bituminous concrete 40mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction in all respects complete as per specifications. Clause 507 of MORTH V revision as per IRC SP-53-2015. using 40-60 TPH capacity HMP with mechanical paver grading II (30-45mm) with 5.4% of modified bituminus binder consisting of 4.97% of VG-30 bitumen (60/70 grade) and 0.43% of plastomeric thermoplastics (waste plastic) (P.No.171, I.No.21.78.12 of PW,P&IWTD SR 2018-19) As per Issue rate dated: 03/01/2020**	**Cum**		**4,493.36**	**7753.9**	**34841064.10**

a	Improvements to roads and drains at Kogilu and surrounding area in Ward No 05 Byatarayanapura sub division		12	1,273.84		
b	Improvements to roads and drains at Agrahara and surrounding area in Ward No 05 Byatarayanapura sub division		16	1,432.54		
c	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 06 Byatarayanapura sub division		16	1,786.98		
19	**KSRRB M800-13.Road Marking with Hot Applied Thermoplastic Compound with Reflectrising Glass Beads on Bituminous Surface/ Concrete Surface: Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads at 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35 standards specified. The finished surface to be level, uniform and free from streaks and holes complete as per specifications. MORTH Specification No. 803(P.No-182,I No-24.15)**	**sqm**		**4,370.50**	**454.74**	**1987441.17**
a	Improvements to roads and drains at Kogilu and surrounding area in Ward No 05 Byatarayanapura sub division		13	1,146.75		
b	Improvements to roads and drains at Agrahara and surrounding area in Ward No 05 Byatarayanapura sub division		17	1,501.25		
c	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 06 Byatarayanapura sub division		17	1722.50		
20	**KSRRB M600-1. Construction of dry lean cement concrete mix CC1:5:10 with OPC cement @160Kgs, with 25mm and down size graded granite metal coarse aggregate at 0.86cum and fine aggregates @ 0.58cum Sub- base over a prepared sub-grade with (coarse and fine aggregate conforming to IS: 383) aggregate cement ratio not to exceed 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content not to be less than 160 kg/ cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant, transported to site, laid with a paver, compacting with 8-10 tonnes vibratory roller, finishing and curing complete as per specifications. . MORTH V Revision Specification No. 601, IS 456 Table-5. with OPC at 150 kg/cum and coarse aggregate 0.86cum, fine aggregate 0.58cum using Concrete Batch mix Plant at 75 cum/hr capacity with fixed form paver .((P.No.174, I.No.22.1.2 of PW,P&IWTD SR 2018-19)**	**cum**		**369.83**	**3884.9**	**1436733.14**
a	Improvements to roads and drains at Kogilu and surrounding area in Ward No 05 Byatarayanapura sub division					
b	Improvements to roads and drains at Agrahara and surrounding area in Ward No 05 Byatarayanapura sub division		18	369.83		
c	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 06 Byatarayanapura sub division					
21	**Constructing un-reinforced, plain cement concrete for pavements using Grade concrete M30 with OPC at 360 kg/cum and coarse aggregate 0.69cum, fine aggregate 0.46cum. over a prepared base with OPC coarse aggregate at 0.69 cum, fine aggregates at 0.46 cum,Coarse and fine aggregate conforming to IS:383-2016, with Superplastizer at 3 lts conforming to IS 9103-2008. mixed in a concrete mixer of not less than 0.6 cum capacity and appropriate weigh batcher as per approved mix design, laid in approved fixed side form work (steel channel, laying and fixing of 125 micron thick polythene film, wedges, steel plates including levelling the form work as per drawing). & Spreading the concrete with shovels, rackers compacted using needle, screed and plate vibrator and finished with floaters in a continuous operation including provision of contraction, expansion, construction and longitudinal joints,including groove cutting charges, joint filler, separation membrane of impermiable plastic sheet of 125 micron, sealant primer, joint sealant, admixtures as approved, curing compound, finishing to lines and grades, textured with texturing machine, and curing**	**Cum**		369.83	**5210.96**	**1927143.28**
a	Improvements to roads and drains at Kogilu and surrounding area in Ward No 05 Byatarayanapura sub division					

b	Improvements to roads and drains at Agrahara and surrounding area in Ward No 05 Byatarayanapura sub division		19	369.83		
c	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 06 Byatarayanapura sub division					
					Total Construction Cost	92241169.90
22					12% GST to Construction Cost	11068940.39
23					5% Tender Premium	4612058.50
24					Cost towards Preparation of DPR LS	1033102.00
25					Cost towards PMC / Third Party inspection LS	1033102.00
					Sub Total	109988372.78
					Miscellaneous and rounding off	11627.22
					TOTAL	110000000.00

Certificate.

1 The rates adopted based on the PWD SR, Bangalore circle for year 2018-19, and Approved rates
2 The provisions made in the estimate are necessary and essential.
3 The workspot was inspected and work is found to be necessary.
4 The area comes within the Bruhat Bangalore Mahanagara Palike limits.

Tejus Consultants

Assistant Engineer

Assistant Executive Engineer

Executive Engineer
ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಬ್ಯಾಟರಾಯನಪುರ ವಿಭಾಗ ಯಲಹಂಕ ವಲಯ
ಬೃತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ ಬೆಂಗಳೂರು-560092.

Technical Sanction
Accorded for Rs 1000.00 lakhs only
Head of A/C P3158
CER NO : 09 Dt: 22.05.2020
CE (YNK)

ADMINISTRATIVE APPROVAL
Accorded For Rs 1100.00 lakhs only
Head of A/c P3158
Div. Ref. No 62/20-21 Date 05-2-21
AE
EE(BTP)